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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,037	02/09/2005	Kai Schumacher	264681US0XPCT	4865
22850	7590	10/16/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
LIAO, DIANA J				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
10/16/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

## Application No.

10/524,037

## Applicant(s)

SCHUMACHER ET AL.

## Examiner

DIANA J. LIAO

## Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 6-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)  
Paper No(s)/Mail Date 5/2/2005, 10/24/2005, 7/13/2006, 8/28/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of group I in the reply filed on 6/23/3008 is acknowledged. The traversal is on the ground(s) that lack of unity was not properly made because the invention as a whole was not taken into account. Applicant argues that the motivation of the instant application makes a contribution over the different motivation of the prior art. This is not found persuasive because the claimed invention as a whole, and not the disclosure of the application as a whole, are used to find a lack of unity. The common technical feature of the groups is a silica with a hydroxyl density of 2.5-4.7 OH/nm<sup>2</sup>. Although it is noted that groups II-VII contain an aqueous dispersion of the powder, and not just the powder itself, aqueous dispersions of silica are well known in the art for use in antifouling and antifogging coatings and the manufacturing of other composites. Applicant also argues that the original international report does not report a lack of unity. However, this is also not found persuasive, as the findings of examination of the international application have no bearing on the findings of this office.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 6-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/23/2008.

***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 102 39 144.0 (Germany), filed on 8/27/2002.

***Information Disclosure Statement***

4. The information disclosure statement (IDS) submitted on 5/2/2005, 10/24/2005, 7/13/2006, and 8/28/2008 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitzgerald, et al. (US 5,623,028).

Fitzgerald '028 teaches a fumed or pyrogenic silica filler for a rubber. (col 4, lines 38-40) The surface hydroxyl content of the silica is controlled in order to achieve desired properties. (col 1, lines 5-13) For example, if the silanol density is high, the sealing force percentage of the rubber that the filler is in is low. (Table 3) In the examples, silica of 4.5

OH/nm<sup>2</sup> is treated to obtain silica with surface silanol densities ranging from 2.60 to 3.85 (Table 2), with several examples, including 3.85 OH/nm<sup>2</sup> falling within the claimed range. A preferred composition contains a fumed silica filler with a surface area from 90-400 m<sup>2</sup>/g with the silanol density controlled. (col 8, lines 19-26) This surface area range falls within the claimed range.

The teaching of fumed silica or pyrogenic silica in Fitzgerald '028 is found to fairly teach the limitation of a silica produced by flame hydrolysis, which is a product by process limitation.

Therefore, claims 1, 4, and 5 are not found patentable over the prior art.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzgerald '028 as discussed pertaining to claims 1, 4 and 5 above, in view of Mangold, et al. (US 6,328,944) and optionally Mangold, et al. (US 6,423,331).

Fitzgerald '028 does not teach a doped silicon powder.

Mangold '944 teaches pyrogenically prepared metals of doped with at least one doping component at 0.00001 to 20 wt.%. The surface area of this doped oxide is 5-600 m<sup>2</sup>/g. (col 1, lines 30-40) Silicon dioxide is one of the metal oxides encompassed in Mangold '944. (col 3, lines 5-8) The doping components are distributed almost homogenously in the pyrogenically prepared-oxide. (col 3, lines 15-17) This is found to fairly teach or suggest a mixed metal oxide. The materials created may be useful for applications such as additives in the silicone or rubber industry. (col 3, lines 30-36)

One of ordinary skill in the art would be motivated to combine doping with the silica of Fitzgerald '028 in order to create a silica with improved properties. For example, a silica doped with cerium is found to have an improvement in thickening effect in a polyester resin. (col 7, lines 63-65)

Optionally, Mangold '331 also teaches a silicon dioxide doped with silver or silver oxide. The silver is added for bactericidal properties and can be used as a filler in rubber or silicone rubber. (col 1, lines 11-16)

Therefore due to the advantageous effects of doping, claims 2 and 3 are not found patentable over the prior art.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Noritake, et al. (US 5,609,675).

Claims 1-5 have been rejected. Claims 6-18 were not examined due to being the non-elected inventions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIANA J. LIAO whose telephone number is (571)270-3592. The examiner can normally be reached on Monday - Friday 8:00am to 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ngoc-Yen M. Nguyen/  
Primary Examiner, Art Unit 1793

DJL